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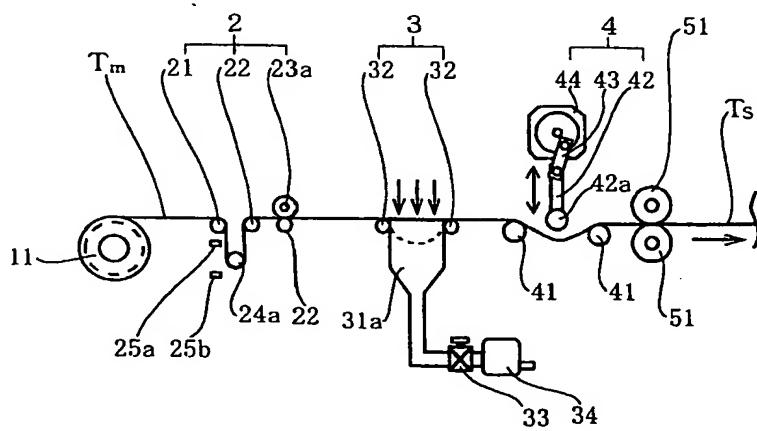
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(54) Title: METHOD OF PRODUCING A SPREAD MULTI-FILAMENT BUNDLE AND AN APPARATUS USED IN THE SAME



(57) Abstract: A method of producing a spread multi-filament bundle and an apparatus used in the same are provided, in which an arbitrary number of multi-filament bundles of higher strength are simultaneously spread with high speed and facility and a high-quality spread multi-filament bundle or sheet with the component monofilaments thereof aligned in parallel widthwise and uniformly distributed in density is produced with high efficiency. Such mechanism is adopted herein as the respective multi-filament bundles fed from a yarn supplier or a creel being subjected to the fluctuation of the tensile force applied thereto alternatively between tension and relaxation and the respective bundles as subjected to such fluctuation

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being passed in succession through a fluid flowing spreader comprising a plurality of fluid flowing portions disposed in succession along the moving course of the respective bundles to be subjected to fluidal resistance so as to bend towards the direction to which a fluid flows and the fluid flowing through any adjacent component monofilaments of the respective bundles whose bonding is slackened due to such fluidal resistance so as to widely spread the respective bundles by the mutual action of such change of the tensile force and such fluidal resistance applied thereto.



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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International Application No  
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**A. CLASSIFICATION OF SUBJECT MATTER**

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According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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